

# PATENT ABSTRACTS OF JAPAN

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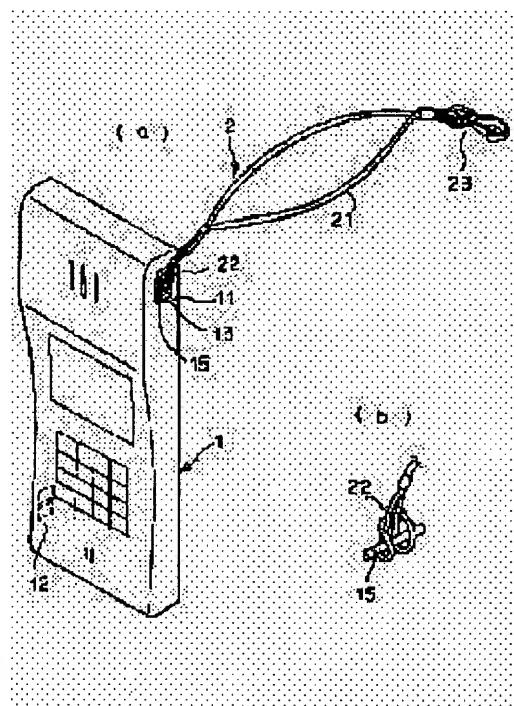
(72)Inventor : IIDA HIROKO  
NAGAI MICHIO

## (54) HAND STRAP FOR PORTABLE APPARATUS

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a hand strap for a portable apparatus, which reduces a holding force in a carrying mode and which can increase the degree of freedom of a hand on the holding side.

**SOLUTION:** A first mounting part 11 and a second mounting part 12 are installed at a telephone body 1, a hand strap 2 is formed as a large-diameter ring part 21, a small-diameter ring part 22 which is formed at a part on one side of it is connected to the first mounting part 11, and a hook member 23 which is formed at a part on the other side of it is connected to the second mounting part 12 so as to be detachable. In a state that the hand strap 2 is connected only to the first mounting part 11, a portable apparatus can be held only in a hanging state. In a state that the hand strap 2 is connected to both the first and the second mounting parts, the portable apparatus can be held in a gripped state that by the palm of one's hand. According to the use situation of the portable apparatus, the apparatus can be held while its shape is being changed arbitrarily, and the degree of freedom of a hand is increased when the apparatus is held. On the other hand, the certainty of a holding operation is increased, and a holding force is reduced.



## LEGAL STATUS

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**CLAIMS**

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[Claim(s)]

[Claim 1] It is the hand strap for pocket devices which said hand strap is formed in cyclic by preparing the 1st and 2nd attachment sections in said pocket device at least in the hand strap connected with a pocket device in order to hold a pocket device, and is characterized by connecting the part with said 1st attachment section, and connecting it removable [ other parts ] in the 2nd attachment section.

[Claim 2] A hand strap is a hand strap for pocket devices of claim 1 with which it is formed as a ring of a major diameter, the wheel part of the minor diameter hung by said 1st attachment section on a part of this major-diameter wheel part is connected with one, and it comes to connect with one the removable stop member stopped by the 2nd attachment section in the location which counters in the direction of a path of said major-diameter wheel part.

[Claim 3] A removable stop member is the hand strap for pocket devices of claim 2 which is the hook hook member opened and closed by finger actuation.

[Claim 4] They are claim 1 prepared in the location which a pocket device is the configuration which can be supported in the palm, and the side face which counters mutually [ a pocket device ] holds the 1st and 2nd attachment sections, respectively, and counters in the vertical direction thru/or one hand strap for pocket devices of 3.

[Claim 5] A hand strap is a hand strap for pocket devices of claim 4 set as the die length installed with allowances to the tooth back of a pocket device when it is made to connect with the 1st and 2nd attachment sections.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the hand strap which enabled the cellular phone in the especially different maintenance condition about the hand strap used in case pocket devices, such as a portable telephone and a field radio, are held single hand.

[0002]

[Description of the Prior Art] When carrying the small device in which a cellular phone like a portable telephone is possible, using a hand strap is performed in usual. For example, in JP,63-22777,U, the hand strap of the shape of a band which unified the glove is prepared, and the thing of a configuration of having connected the both ends of this hand strap with the pocket device, respectively is proposed. Moreover, in JP,63-6774,U, that whose installation of a band-like hand strap was enabled in two or more directions which intersect perpendicularly with the location which counters some pocket devices is proposed. The former thing will be in the condition that nature and a pocket device can be held single hand by putting a glove, and the cellular phone of it will be enabled. Moreover, the latter thing is inserting a hand between a pocket device and a hand strap, and can hold a pocket device single hand.

[0003] When a pocket device is held in the palm, in order that a hand strap may be located in the back side of a hand and may make a hand a conclusion condition, these hand straps serve as auxiliary force at the time of this conclusion force holding a pocket device, and become possible [ holding a pocket device by the force small in comparison ]. however, these things -- each -- a pocket device -- a palm -- since it is the configuration held in a location, a palm will be in the condition of being occupied by the pocket device, and the problem of the freedom of one hand stopping hearing will produce the hand of the side held in the state of maintenance.

[0004] On the other hand, if the wheel part 32 of the minor diameter which the hand strap 3 formed in cyclic [ of a major diameter ] is also proposed, and was established in a part of major-diameter wheel part 31 of this hand strap 3 is connected to the fixed bar 43 prepared in the crevice 42 of the attachment section 41 established in the pocket device 4 as shown in drawing 5, that cellular phone will be enabled by hold, where the major-diameter wheel part 31 of the hand strap 3 is hung and hung on through or a finger at a wrist. Therefore, when it holds through a hand strap even at a wrist, the hand by the side of maintenance can be made into a free condition.

[0005]

[Problem(s) to be Solved by the Invention] However, in the hand strap of drawing 5, a hand strap is for holding, where a pocket device is hung to the last, and when it is going to hold a pocket device in the palm, it is necessary to hold it in the same condition as the case where the hand strap does not exist. For this reason, as compared with the thing of a configuration of receiving the above mentioned assistance of maintenance according to a hand strap like an official report before, the big force for maintenance is required, and it is not suitable in holding long duration.

[0006] While the purpose of this invention reduces the holding power at the time of carrying, it is to offer the hand strap of the pocket device which can raise the degree of freedom of the hand of the side to hold.

[0007]

[Means for Solving the Problem] The hand strap with which the 1st and 2nd attachment sections are prepared in a pocket device at least, and the hand strap for pocket devices of this invention is connected with this pocket device is formed in cyclic, that part is connected with the 1st attachment section, and other parts are characterized by connecting with the 2nd attachment section removable. Here, a hand strap is formed as a ring of a major diameter, and the wheel part of the minor diameter hung by the 1st attachment section on a part of this major-diameter wheel part is connected with one, and is considered as the configuration in which the removable stop member stopped by the 2nd attachment section was connected with one in the location which counters in the direction of a path of a major-diameter wheel part.

As for this removable stop member, it is desirable to be constituted as a hook member opened and closed by finger actuation.

[0008] Moreover, in the hand strap of this invention, a pocket device is the configuration which can be supported in the palm, and, as for the 1st and 2nd attachment sections, it is desirable to be prepared in the location which the side face which counters mutually [ a pocket device ] is alike, respectively, and counters in the vertical direction. In this case, when a hand strap is made to connect with the 1st and 2nd attachment sections, it is desirable to be set as the die length installed with allowances to the tooth back of a pocket device.

[0009]

[Embodiment of the Invention] Next, the operation gestalt of this invention is explained with reference to a drawing.

Drawing 1 (a) is the perspective view of 1 operation gestalt of this invention, and shows the example which applied this invention to the portable telephone as a pocket device here. A portable telephone is seen from the transverse plane of the body 1 of telephone, and the attachment sections 11 and 12 of the 1st and 2nd straps are formed in the upper limit section of a right lateral, and the lower limit section of a left lateral, respectively. These [ 1st ] and each 2nd attachment section 11 and 12 are considered as the configuration which formed the rectangular crevices 13 and 14 in each side face of the body of telephone, and formed the fixed bars 15 and 16 in one in this crevice 13 and 14.

[0010] On the other hand, the hand strap 2 is formed as a wheel part of a major diameter which consists of a thicker string a little as shown in this drawing, and the wheel part 22 of the minor diameter which consists of a thinner string is connected with a part of this major-diameter wheel part 21. Moreover, the metal hook member 23 is connected with a part of other major-diameter wheel parts 21 which counter the wheel part 22 of this minor diameter. And when said minor diameter wheel part 22 and the hook member 23 are pulled on both sides and the major-diameter wheel part 21 is made into a truth direct condition, this hand strap 2 is formed so that it may become a dimension a little longer than the die length which connects the 1st of said body 1 of telephone, and the 2nd attachment section 11 and 12 on a straight line.

[0011] And this hand strap 2 is making the minor diameter wheel part 22 hang like drawing 1 (b) to the fixed bar 15 of said 1st attachment section 11 of the body 1 of telephone. As usual, after making the inside of the fixed bar 15 insert in the minor diameter wheel part 22, the structure of this hanging is making the hook member 23 and the major-diameter wheel part 21 insert in in the ring of the minor diameter wheel part 22, and pulling a hook member side, and is performed by concluding the fixed bar 15 by the minor diameter wheel part 22. Therefore, it is being able to deal with it like the conventional hand strap which showed the hand strap 2 to drawing 5 in this condition, for example, making the major-diameter wheel part 21 insert in a wrist, where the body 1 of telephone is hung, it can hold, and the palm of the side held at this time will be in a free condition. Moreover, when holding the body 1 of telephone in the palm by this condition, it can hold by supporting the body 1 of telephone in the palm of that hand like drawing 2 with the condition of having let the major-diameter wheel part 21 pass at the wrist.

[0012] With the condition of on the other hand having made the minor diameter wheel part 22 of the hand strap 2 hanging on the 1st attachment section 11 like drawing 3 (a), If the 2nd attachment section 12 is made to stop the hook member 23 of the hand strap 2, the major-diameter wheel part 21 of the hand strap 2 will be in the condition that it was extended in the direction of slant, maintaining the allowances for how many minutes along the tooth back of the body 1 of telephone, and connection immobilization of the both ends was carried out at the body of telephone. At this time, a hook will be stopped by the fixed bar 16 of the 2nd attachment section 12 like drawing 3 (b) in the hook member 23. Therefore, when holding the body 1 of telephone in this condition, as shown in drawing 4, between the hand strap 2 and the tooth back of the body 1 of telephone, the left thumb can be made to be able to insert in in this case, and the body 1 of telephone can be held in the palm by a part of hand and the condition that the hand strap 2 is applied to the back of a hand. Thereby, it becomes the assistance for maintenance, and the hand strap 2 can hold the body of telephone certainly also with small grip, and becomes possible [ that maintenance of long duration also mitigates the burden of the force ].

[0013] In addition, when returning a hand strap to the condition of drawing 1 from the condition of drawing 3, it can carry out very easily that what is necessary is just to remove from the fixed bar 16 of the 2nd attachment section 12 after carrying out elastic deformation of the hook member 23 by finger actuation and opening a hook. For this reason, by this hand strap, in the condition of maintenance of the body of telephone, i.e., un-talking [ of telephone ] over the telephone, maintenance in the condition of having made the hand strap into the condition of drawing 1, and having hung it like drawing 2 is enabled, the degree of freedom of a hand can be raised and prolonged maintenance is attained. On the other hand, at the time of the message of telephone, a hand strap is made into the condition of drawing 3, maintenance in the condition of having supported the body of telephone like drawing 4 is enabled, and the message by small maintenance prolonged with grip is attained.

[0014] In addition, although said operation gestalt shows the example which applied this invention to the body of telephone, it is possible to apply to various pocket devices, such as a pocket transmitter or a portable radio, and pocket television. Moreover, the configuration of each 1st [ which is prepared in a pocket device ] and 2nd attachment sections and the configuration of the attachment section of the both sides of a hand strap which carries out connection immobilization at these attachment section are not restricted to the thing of a configuration of having described above, and if attachment of the attachment section of at least 1 way and attachment and detachment are easy, it is possible also in adopting other configurations.

[0015]

[Effect of the Invention] As explained above, as for this invention, the 1st and 2nd attachment sections are prepared in a pocket device at least. Since the hand strap is considered as the configuration by which it was formed in cyclic, the part was connected with the 1st attachment section, and other parts were connected with the 2nd attachment section removable. In the condition of having connected only with the 1st attachment section, maintenance, in the condition of having hung the pocket device using the hand strap is attained, and maintenance in the condition of supporting a pocket device in the palm is attained in the condition of having connected with both 1st and 2nd attachment sections. Maintenance while changing the gestalt into arbitration according to the situation of use of a pocket device is attained by this, and the degree of freedom of the hand for maintenance is raised, and the effectiveness that reduction of the certainty of maintenance and holding power can be aimed at on the other hand is acquired.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the perspective view and the perspective view of an important section of the 1st gestalt of the operation gestalt of this invention.

[Drawing 2] It is the perspective view showing the maintenance condition in the 1st gestalt.

[Drawing 3] It is the perspective view and the perspective view of an important section of the 2nd gestalt of the operation gestalt of this invention.

[Drawing 4] It is the perspective view showing the maintenance condition in the 2nd gestalt.

[Drawing 5] It is the perspective view of the conventional hand strap.

[Description of Notations]

1 Body of Telephone

2 Hand Strap

11 1st Attachment Section

12 2nd Attachment Section

13 14 Crevice

15 16 Fixed bar

21 Major-Diameter Wheel Part

22 Minor Diameter Wheel Part

23 Hook Hook Member

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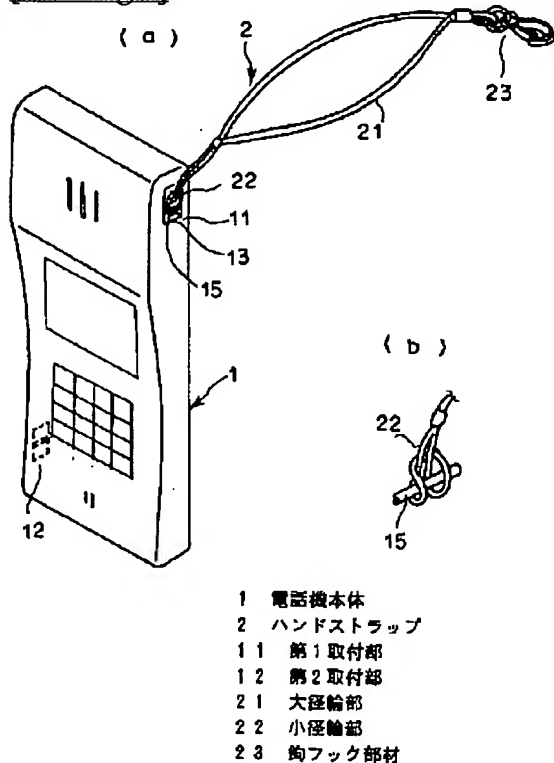
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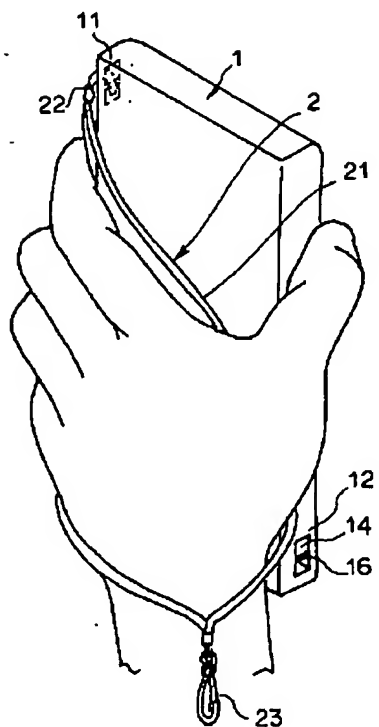
## DRAWINGS

[Drawing 1]



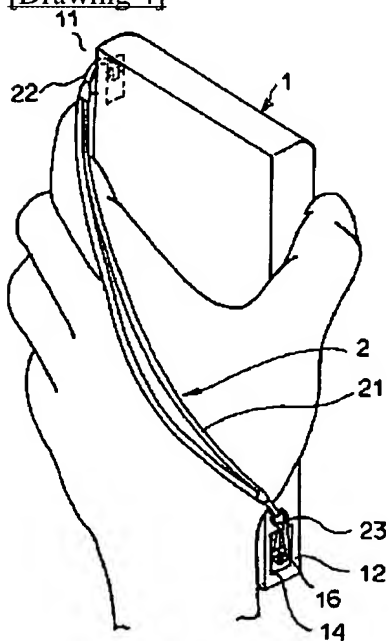
[Drawing 2]





- 1 電話機本体
- 2 ハンドストラップ
- 11 第1取付部
- 12 第2取付部
- 21 大径輪部
- 22 小径輪部
- 23 鉤フック部材

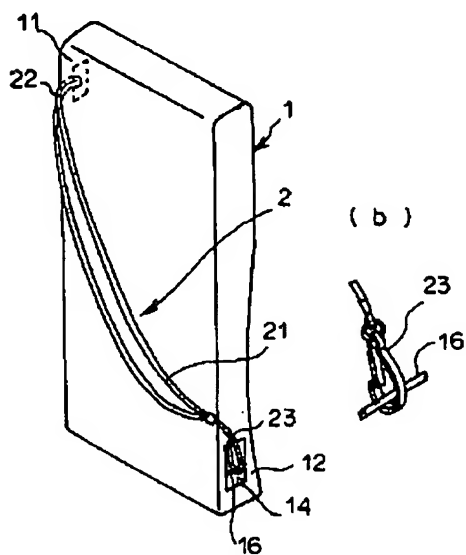
[Drawing 4]



- 1 電話機本体
- 2 ハンドストラップ
- 11 第1取付部
- 12 第2取付部
- 21 大径輪部
- 22 小径輪部
- 23 鉤フック部材

[Drawing 3]

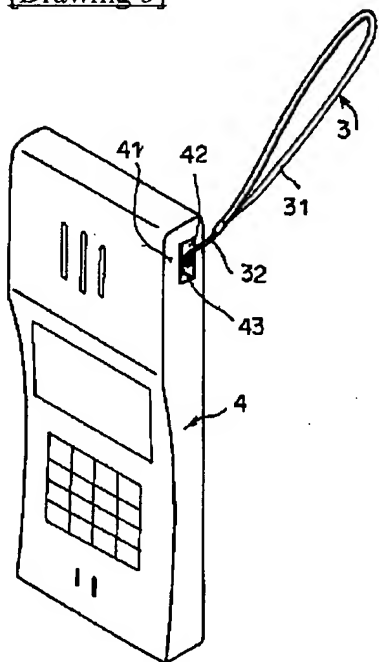
( a )



( b )

- 1 電話機本体
- 2 ハンドストラップ
- 11 第1取付部
- 12 第2取付部
- 21 大径輪部
- 22 小径輪部
- 23 鉤フック部材

[Drawing 5]



- 3 ハンドストラップ
- 4 電話機本体
- 31 大径輪部
- 32 小径輪部
- 41 取付部

[Translation done.]

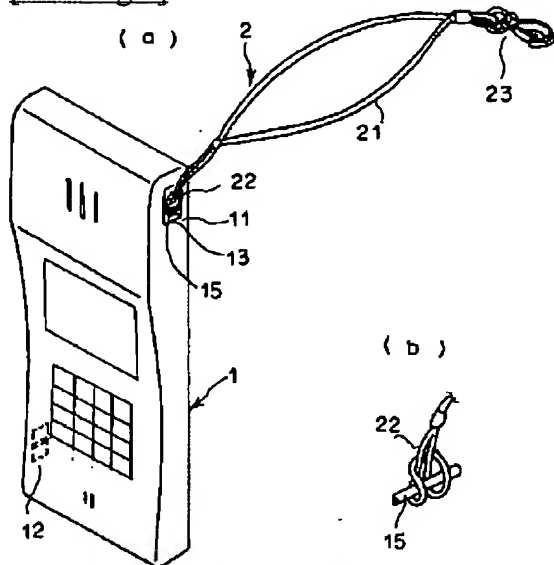
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## DRAWINGS

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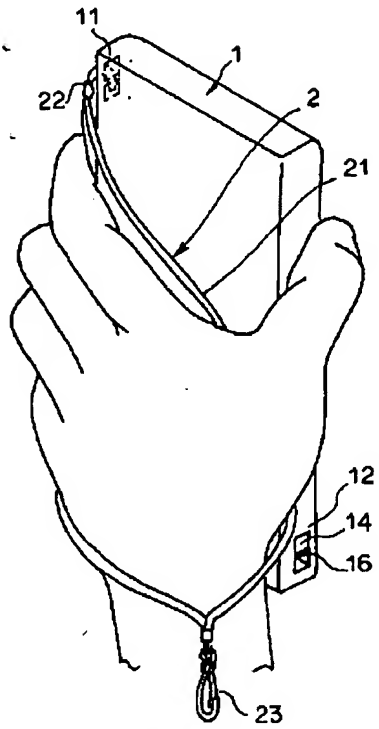


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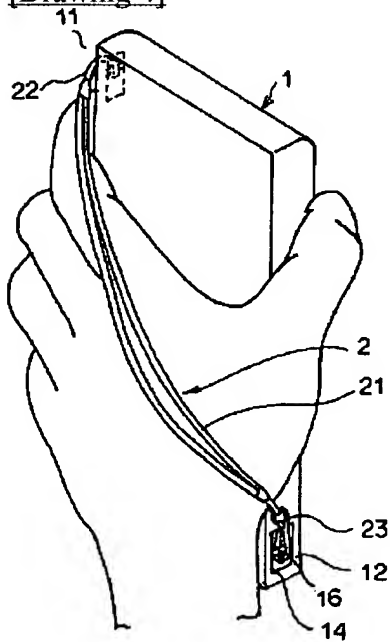
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[Drawing 2]



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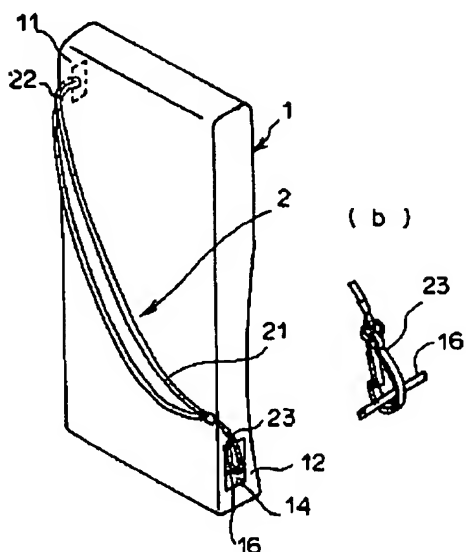
[Drawing 4]



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[Drawing 3]

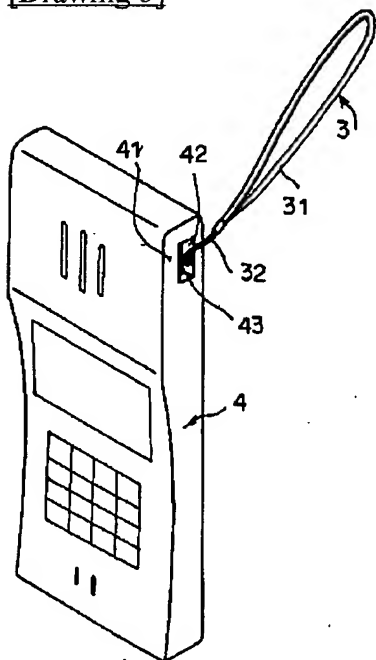
( a )



( b )

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[Drawing 5]



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- 4 電話機本体
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- 32 小径輪部
- 41 取付部

[Translation done.]